

Further Field Notes on the Behavior of *Aplysia dactylomela*

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ON A RECENT COLLECTING TRIP to the waters off La Parguera, Puerto Rico (21 V through 24 V 1977) 3 observations offer data supportive of previous reports of the behavior of *Aplysia dactylomela* Rang, 1828 (TOBACH, GOLD & ZIEGLER, 1965; LEDERHENDLER, BELL & TOBACH, 1975; LEDERHENDLER, 1977; LEDERHENDLER & TOBACH, 1977) and *Aplysia californica* Cooper, 1863 (KUPFERMANN & CAREW, 1974; AUDESIRK, 1976).

Because of weather conditions, it was only possible to collect on one afternoon (21 V) and 3 mornings (22 V, 23 V and 24 V). We searched 2 sites thoroughly on each occasion except as noted below: a reef lagoon called La Gata. The leeward side of La Gata is a shallow, sandy-bottomed area with coral rubble and rock bordering on a shallow water bed of *Thalassia*. *Ulva lactuca* and *Acanthophora spicifera* are found in abundance in the *Thalassia*, but in the rocky area close to the reef. Mangroves border the area in the north. The Enrique site is an extensive shallow water bed of *Thalassia*, with sandy bottoms, in which *A. spicifera*, *U. lactuca*, and *Laurencia obtusa* are found in profusion. The site is bordered by mangroves on the leeward side. The 3 species of algae are readily eaten by *Aplysia dactylomela* in the laboratory and they are found feeding on them in these waters (LEDERHENDLER, 1977).

On the first afternoon, we tagged 8 animals in the La Gata lagoon in an area approximately 30 meters square. We also tagged 8 animals in an area approximately 40 m by 20 m in the Enrique area. Only 1 pair of these animals was found copulating. There was a significant difference between the weights of the 2 populations (Mann-Whitney "U" test, $p = 0.002$). The La Gata sea hares ranged in weight from 25 g to 220 g (median = 150 g), while those found at Enrique ranged from 165 g to 450 g (median = 350 g). The 2 copulating animals were found at La Gata; the sperm donor weighed 420 g; the sperm receiver weighed 410 g.

On the subsequent 3 mornings we found the following:

1. All 8 animals tagged at La Gata were recaptured. Only 2 were recaptured at Enrique. The recaptured pair

were copulating; the sperm receiver was the same animal that was the sperm receiver the first afternoon; the sperm donor was a different animal and weighed 450 g.

2. An additional 20 animals were captured. On the first morning, 2 of 10 animals were copulating; on the second morning, the ratio was 2/7; on the third day, 6 of 8 were found copulating (see Table 1).

Table 1

Reproductive Behavior of *Aplysia dactylomela*
La Parguera, Puerto Rico (1977)

	Enrique Reef		La Gata Reef	
	Copulating	Not Copulating	Copulating	Not Copulating
PM: 5/21	2	6	0	8
AM: 5/22	0	0	2	10
5/23	2	1	0	4
5/24	6	2	—	— ¹

¹Not visited because of weather

$X^2 = 3.08$. d.f. = 1, $0.10 > p > 0.05$

3. At the Enrique area on the third morning, the 8 animals collected were all in a sandy area approximately 10 meters square which was not as rich as surrounding areas in *Ulva lactuca* and *Acanthophora spicifera*. No *Laurencia* was seen. This area had been searched during the previous afternoon and morning visits. We did not find any copulating animals in that area or in the nearby areas where the algae were thick on those occasions, or on the third morning.

The recapture of animals in the same area over a 3-day period is not unusual for *Aplysia dactylomela* as we had previously been able to recapture large numbers of ani-

mals over a 12-day period in Bimini (LEDERHENDLER, BELL & TOBACH, 1975). The difference in numbers of animals found copulating during the morning and afternoon conforms with previous findings (see LEDERHENDLER *et al.*, 1975; LEDERHENDLER & TOBACH, 1977). The gathering of copulating animals in a small area is reminiscent of the observations made by KUPFERMANN & CAREW (1974) and AUDESIRK (1976) of *Aplysia californica*.

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